**Operating instructions and spare parts list**

## Metering Unit

# DSG dosing equipment


Innovative Dutch since 1949

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# Dosing Chart DSG 100

- DSG pump equipped with a 100 litre unit
- Will be pumping a maximum of 150 litre/hour

1 jar with 150 gram → 50 ton of fresh products → 50 litres of water

A grass cut varies between 5 and 15 ton of fresh products. A good judgement of the condition of the crop is necessary for a good dosing for the ADVANCE

## Dosing

The dosing speed is depending of the amount of product which will be pick-upped every minute.

*Example with a pick-up baler with 10 ton of fresh products*

- When it is in 10 minutes full, the dosing needs to be1 litre/minute, so 60 litre/hour.
- When it is in 5 minutes full, than the dosing needs to be 2 litre/minute, so 120 litre/hour

When there is an optional flowmeter: the dosing can be regulated

- When there are 2 pick-up baler are loaded with 10 ton there should be 20 litres of water used.

## Preparation advice 100 litre unit

- Mix 2-3 litre clean water with 300 gram ADVANCE® (2 jars with 150 gram) in the 5 litre jerry can
- Start shaking the jerry can long enough until the ADVANCE® has been resolved completely
- Add the correct amount of water to the unit (100 litre)
- when you‘re finished with the machine please clean it with clean water.

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# Operating instructions

The metering system is a robust, high-performance unit for the application of non-corrosive acids (preservatives) and silage additives based on lactic acid bacteria.

**The unit is not suitable for the application of corrosive preservatives.**

The unit is delivered completely assembled and ready to be connected to an existing 12 V power supply.
Connections from the pump outlet to the nozzle must also be established. The required parts are included in the delivery.

Plastic containers are suitable as storage containers for the silage agents.

All other plastic containers may be used provided that they are thoroughly cleaned. A small hole should be made in the container cover for venting.

Delivered items:

- Pump with mounting bracket
- Filter unit with connections
- Nozzles with holders
- Hoses, hose clamps and inlet valve
- Electrical terminal box, cable, cord switch
- Operating instructions

**Rinse with water every day after use!**

There is no claim to compensation for damage to the unit resulting from improper use or use of other acids.

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## Mounting:

The metering units is attached to the harvester using the bracket delivered. The mounting must be vertical.

The reservoir should be placed in the immediate vicinity of the pump as the pump can only draw against a vertical head of 1.5 metres.

A hole must be drilled in the reservoir cover through which the suction hose (fabric hose 2 m long) is passed.

The supplied foot valve with suction filter is also attached to this hose. Make sure that the hose always reaches to the bottom of the reservoir.

A hose line is also required from the hose connection on the mass flow indicator to the nozzles.

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## Mounting:

## Power supply:

Connect the electric cable to the battery or to the 12 V socket of the harvester.

| | |
|---|---|
| Blue cable | + (power supply) |
| Brown cable | - (ground) |

Connection

Connection

Connect the cord switch supplied to the cable provided (3 m long). Attach the cord switch to the pick-up of the harvester. If a pick-up signal is present this is connected to the blue cable (in this case the brown cable remains free).

The power is switched on and off using the switch provided on the unit's control box. Switching on and off during operation by means of a cord switch. A fuse (5 amp) is provided in the unit's control box.
A pressure switch is located on the pump to protect the pump from damage. The pump is automatically switched off if the pressure in the pressure line rises above 1.5 bar. The pump switches back on once the pressure drops below 1.5 bar.

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## Attaching the nozzles:

One set of nozzles is included in the standard pump delivery.

The nozzles can be easily attached to any desired location on the harvester using the nozzle holder provided.

Place the nozzle(s) in the vicinity of the harvester's intake ensuring that the chopped material is thoroughly sprayed.

When attaching the nozzle(s), make sure that the nozzle(s) do not come into contact with crop or the harvester's intake machinery.

After successful attachment, secure all of the hose connections with hose fitting to prevent leaks.

**It is advisable to check the set metered quantity before starting work!**

Place the nozzle(s) in a bucket and run silage agent through the pump for one minute. Determine the exact quantity with a litre gauge and compare it with the set metered quantity. Adjust if necessary.

Checking the metered quantity is necessary, as the viscosity of *non-corrosive acids* is dependent on the temperature. The viscosity thickens when cold and becomes thinner when warm. Therefore please observe the details on metering on page 8 + 9 of these operating instructions.

The pump flow rate is set using the speed controller.

The float rises or falls in the flow indicator depending on the setting. This indicates the quantity delivered in litres per hour.

## Functional description:

The pump starts to run after it is connected to the power by actuating the switch on the control box and actuating the cord switch.

To ensure proper function, it is advisable to fill the pump with water before first use.

This is only necessary when starting for the first time.

The float rises in the flow indicator and indicates the quantity being processed in litres per hour.

The settings may have to be adjusted depending on the concentration of the solution being metered and its current viscosity. These settings must be determined by metering.

The quantity can be altered by adjusting the speed controller.

# Caution!

**The unit should be rinsed with water after a long period of use and when idling for a longer period.**

**To protect the unit from frost it is necessary to completely empty the unit or to fill the unit with an antifreeze solution.**

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**The manufacturer accepts no liability for any damage that occurs as a result of not observing this functional description!**

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# Checklist for elimination of faults

| Fault | Cause | Elimination |
|---|---|---|
| Pump does not draw | • Suction line or filter is blocked<br>• The interior of the pump housing is dirty<br>• The lines contain too much air | • Clean the suction line and valve<br>• Clean the filter<br>• Clean the pump housing |
| Pump delivers a lot of air | • Container is empty<br>• Suction line is leaking | • Fill or change the container<br>• Eliminate leaks in the suction line by tightening the hose clips and sealing threads with sealing tape |
| Motor doesn't run | • The system is switched off<br>• Power cable is loose<br>• Motor is defective<br>• Remote switch is defective or the solenoid is (too far) away<br>• Fuse has blown | • Switch the system on<br>• Check the cable<br>• Replace the motor<br>• Replace the switch<br>• Replace the fuse |
| Pressure and flow are too low | • Pump or lines are leaking<br>• Suction or pressure line is blocked | • Eliminate leaks in the pump or lines<br>• Clean the lines |
| Pump shuts down | • Pressure switch has triggered<br>• Nozzle diameter too small for large flow quantity | • Fit larger nozzles |

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# Selection of nozzle

The LACTO-SPRAYER JUNIOR has 14 nozzles as standard. These consist of 2 x green, yellow, blue, red, brown, grey and white.

Example of a nozzle selection for 110 l/h: 1 x yellow + 1 red

**Tab.: Nozzle capacity in litres per hour at various pressures**

| Nozzle | Diameter | From 1 bar | Till 4 Barr | Art. Nr |
|---|---|---|---|---|
| Green | 0.15 mm | 20.4 | 40.8 | 19-015 |
| Yellow | 0.20 mm | 27.6 | 54.6 | 19-020 |
| Blue | 0.30 mm | 40.8 | 81.6 | 19-030 |
| Red | 0.40 mm | 54.6 | 109.2 | 19-040 |
| Brown | 0.50 mm | 68.4 | 136.2 | 19-050 |
| Grey | 0.60 mm | 82.2 | 164.4 | 19-060 |
| White | 0.80 mm | 109.2 | 219 | 19-080 |

Specification taken from the technical data sheet. The ACTUAL quantity may differ

## Note: metering of non-corrosive acids:

! ! ! The image of the flow unit shown here is incorrect ! !

Method:

1. Pre-selection of nozzles according to the table (metering line is reduced by approx. 20 - 30%!)
2. Metering with the silage additives

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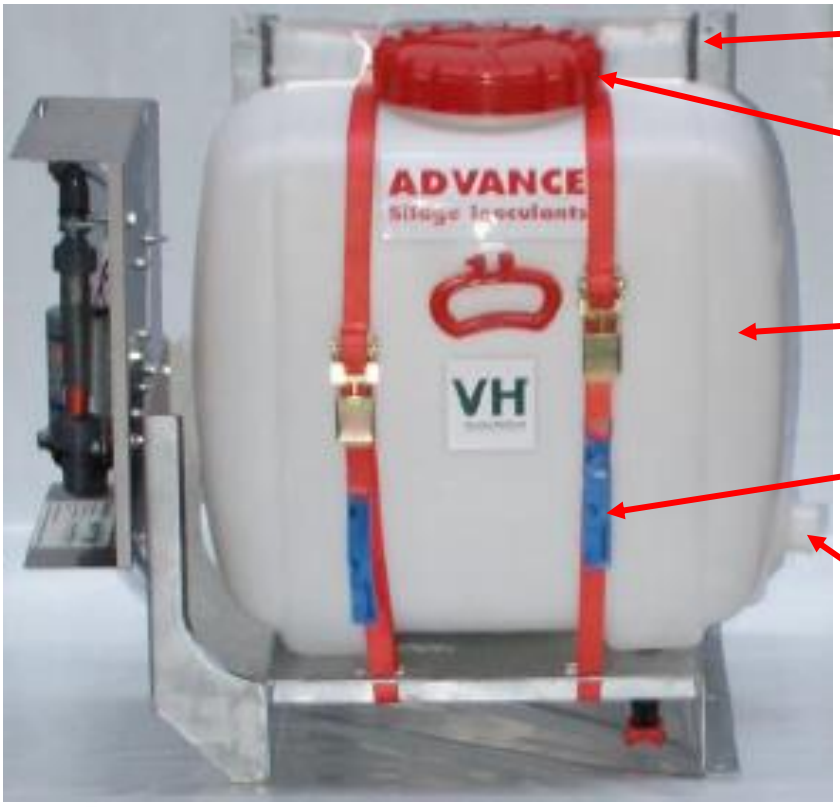
## Part list

100-00




100-39
100-40
100-41 / 100-42
100-43
100-44

| | |
|---|---|
| Artikel-Nr. 100-00: | DSG without reservoir |
| Artikel-Nr. 100-39: | Base construction |
| Artikel-Nr. 100-40: | Lid with vent |
| Artikel-Nr. 100-41: | Reservoir 100 L |
| Artikel-Nr. 100-42: | Reservoir 200 L |
| Artikel-Nr. 100-43: | Lashing strap |
| Artikel-Nr. 100-44: | Side lit |

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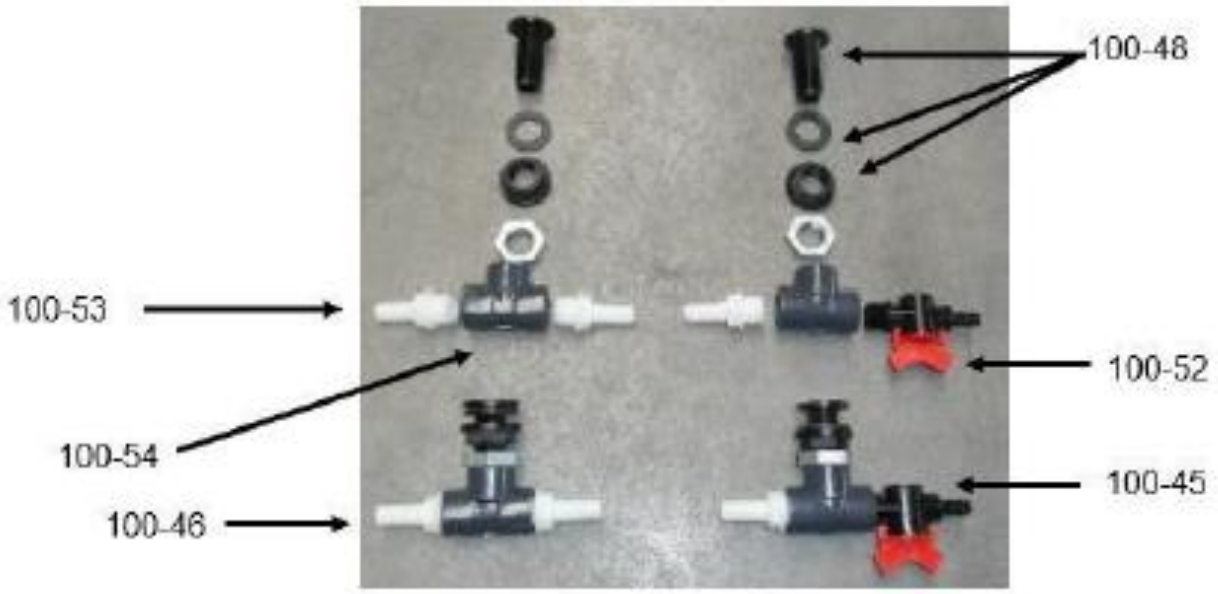
## Part list


| | |
|---|---|
| Artikel-Nr. 100-45: | Tank transit with tap |
| Artikel-Nr. 100-46: | Tank transit pump side |
| Artikel-Nr. 100-47: | Transparant tube |
| Artikel-Nr. 100-48: | Tank tube includes sealing ring and union nut |
| Artikel-Nr. 100-52: | Tap |
| Artikel-Nr. 100-53: | Tube nipple ½” |
| Artikel-Nr. 100-54: | T-Stuk ½" |

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## Part list


| | |
|---|---|
| Item no. **100-03** | Mounting bracket |
| Item no. **100-05** | Pump |
| Item no. **100-06** | Suction filter - complete |
| Item no. **100-07** | Terminal box |
| Item no. **100-08** | Pressure switch |
| Item no. **100-16** | Upper hose connection |
| Item no. **100-17** | Cable set |
| Item no. **100-20** | Sight glass with float |
| Item no. **100-21** | Lower hose connection |

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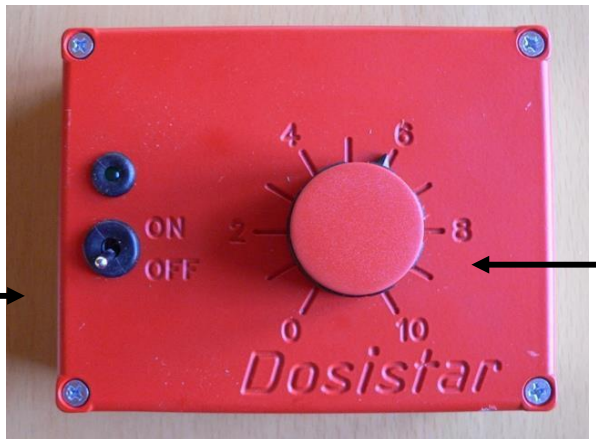
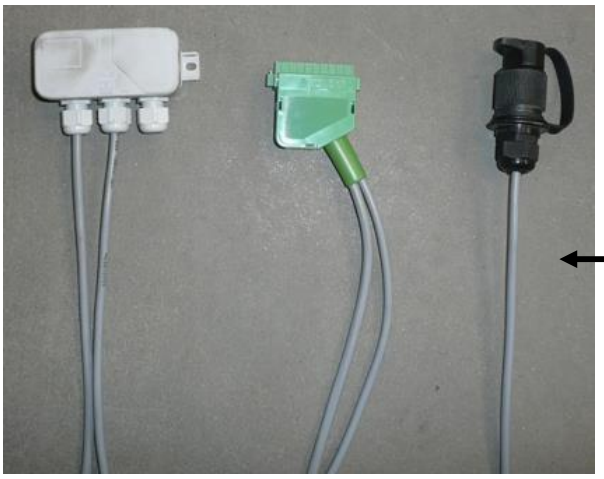
# DSG 160 E
## Also for corrosive acids

The Dosistar electronic speed adjuster (Item no. 10-00)

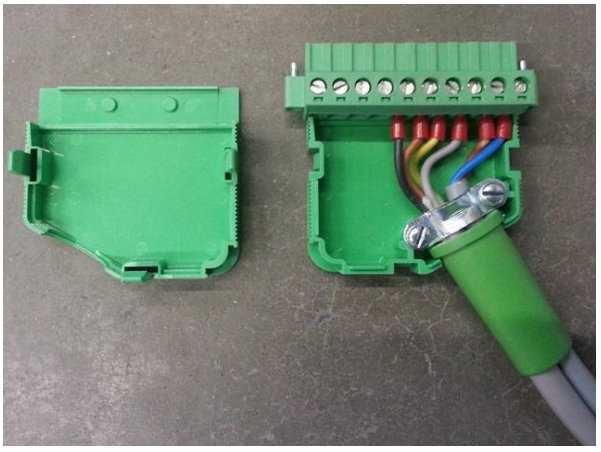
On-Off switch




Speed controller



10-03



Item no. **10-00** Dosistar-V

Item no. **10-03** Cable set complete

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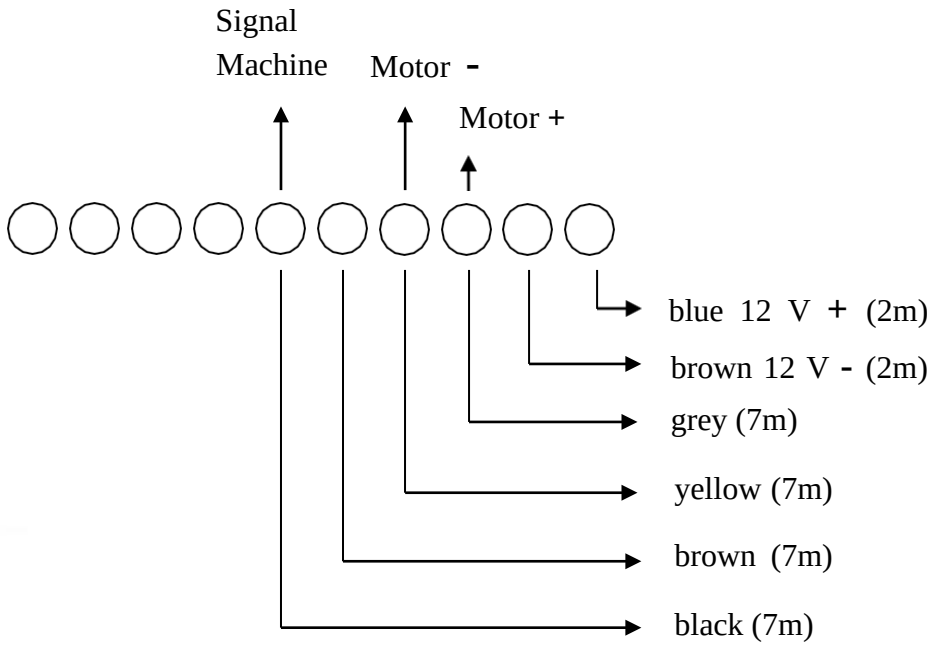
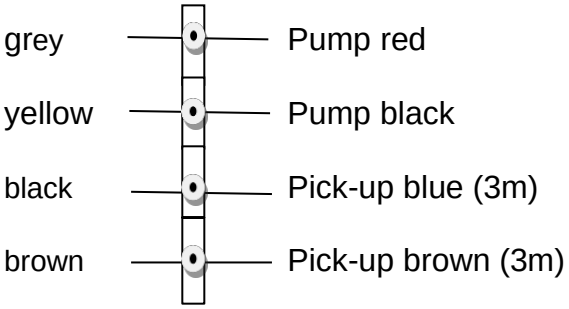
# Diagram Connector:




## Junction box

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Flow indicator complete Item no. 100-19


| | |
|---|---|
| Item no. **100-16** | Upper hose connection |
| Item no. **100-18** | O-ring |
| Item no. **100-19** | Flow meter DFM 170 complete |
| Item no. **100-20** | Sight glass with float and O-rings |
| Item no. **100-21** | Lower hose connection |

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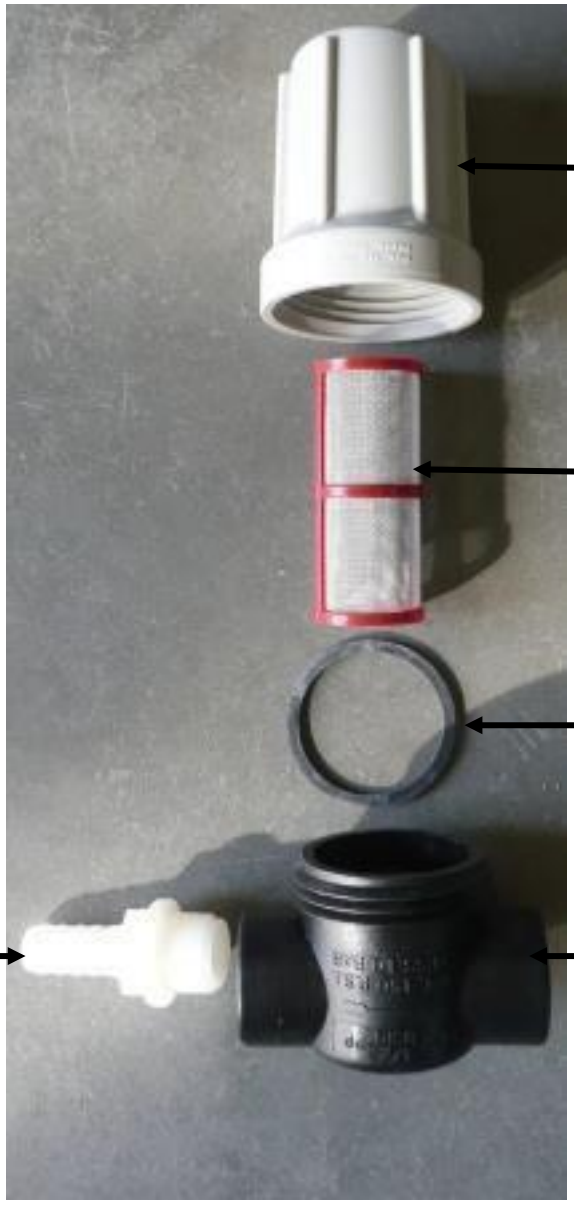
## Suction filter complete (Item no. 100-06)




| | |
|---|---|
| Item no. **100-06** | Suction filter - complete |
| Item no. **100-22** | Hose connection |
| Item no. **100-23** | Filter housing |
| Item no. **100-24** | Filter insert |
| Item no. **100-25** | O-ring |
| Item no. **100-26** | Filter cup |

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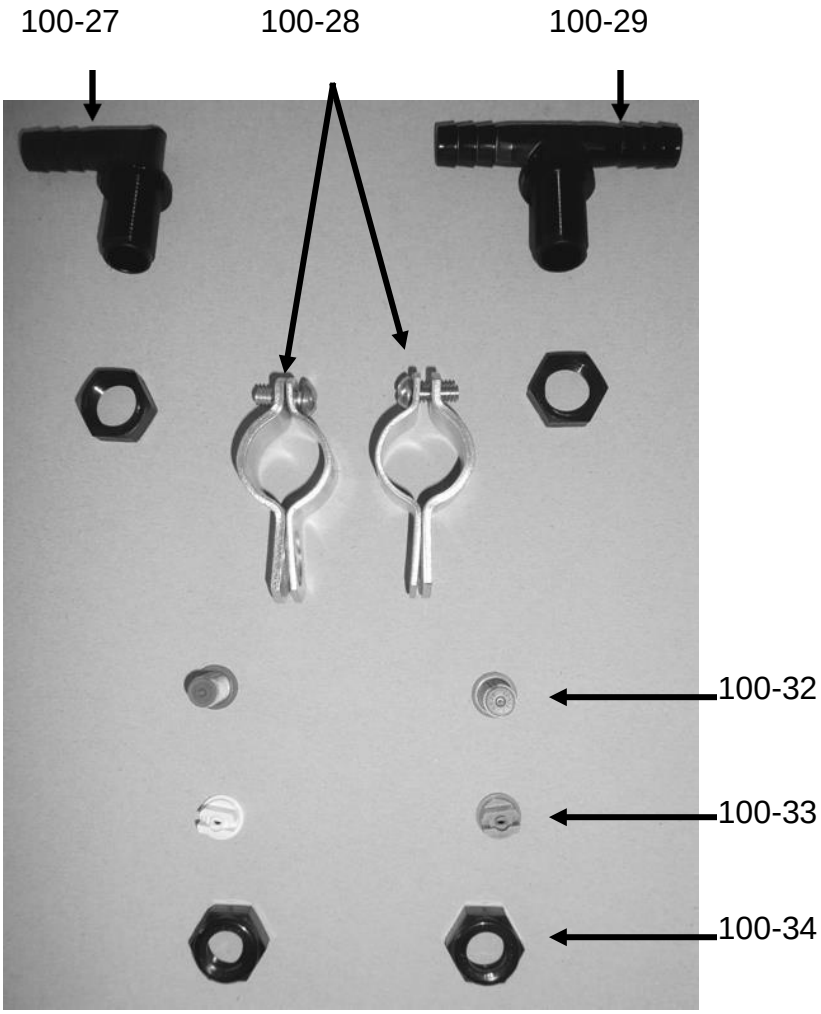
## Nozzle set




**Item no. 100-27-k Nozzle holder angle complete consisting of:**

| | |
|---|---|
| Item no. **100-27** | Nozzle holder angle incl. union nut |
| Item no. **100-28** | Mounting clip |
| Item no. **100-32** | Drip protection |
| Item no. **100-33** | Nozzle insert |
| Item no. **100-34** | Nozzle clamping nut |

**Item no. 100-29-k Nozzle holder T-piece complete consisting of:**

| | |
|---|---|
| Item no. **100-29** | Nozzle holder T-piece incl. union nut |
| Item no. **100-28** | Mounting clip |
| Item no. **100-32** | Drip protection |
| Item no. **100-33** | Nozzle insert |
| Item no. **100-34** | Nozzle clamping nut |

| | |
|---|---|
| Item no. **19-015** | Nozzle insert, diameter 0.15 mm, Colour: green |
| Item no. **19-020** | Nozzle insert, diameter 0.20 mm, Colour: yellow |
| Item no. **19-030** | Nozzle insert, diameter 0.30 mm, Colour: blue |
| Item no. **19-040** | Nozzle insert, diameter 0.40 mm, Colour: red |
| Item no. **19-050** | Nozzle insert, diameter 0.50 mm, Colour: brown |
| Item no. **19-060** | Nozzle insert, diameter 0.60 mm, Colour: grey |
| Item no. **19-080** | Nozzle insert, diameter 0.80 mm, Colour: white |

Item no. **100-35E** Foot filter check valve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